

I can only repeat the suggestion I made when the rules were under the consideration of the Committee of the Natural History Section of Manchester, viz. that the rules be not adopted until they have been compared with Linnæus's '*Philosophia Botanica*,' Fabricius's '*Philosophia Entomologica*,' Illiger's '*Prodromus*,' and DeCandolle's '*Théorie Élémentaire*,' and that when they are not in conformity with the laws proposed by these authors, which have been accepted by all recognized systematic naturalists, the reasons for the proposed alterations should be given in detail. After some discussion, my suggestion was adopted, and the report was remitted to the Committee to carry it out.

The rules were inserted in the printed Report, through the personal influence of Mr. Strickland, who was then a member of the Council, but they never received the sanction of the British Association.

In the '*American Journal of Science and Art*' for March 1864 [reprinted in the '*Annals*' for June, 1864.] there are some admirable observations by Dr. Asa Gray on some of these rules, which entirely accord with my own views, and which I recommend to the consideration of the Committee.

In conclusion, I would request you kindly to bear in mind that I have simply thrown these observations together in the hope of eliciting the opinions of my colleagues in the Section.

My only desire is that we may all heartily concur in doing all that is in our power to render this and other institutions conducive to the increase of the knowledge, the happiness, and the comforts of the people.

BIBLIOGRAPHICAL NOTICES.

Transactions of the Tyneside Naturalists' Field-Club. Vol. VI.
Part II. 8vo. 1864. Newcastle-on-Tyne.

THOUGH the Naturalists' Field-Club of Tyneside cannot rank as the first established among the many kindred clubs that now exist in Great Britain, it would yet appear to be winning, if it has not already won, the premier place, when estimated by the value of its published Transactions. Other field-clubs may possess a larger number of members, more funds, and even greater popularity; but we know of none that is so carefully carrying out the objects for which it was founded, or whose Transactions contribute more to the progress of natural history than this society of naturalists on the banks of the Tyne.

The work which its founders, some eighteen years ago, carved out for it to accomplish was, first, to promote and foster a general taste for natural-history pursuits, and, secondly, to investigate the natural history of Tyneside and the neighbouring district, the results of which were to be published in the Transactions. How far they have, in the latter case, worked out their plan may be judged of by the fact that the Mammalia, Mollusca, Coleoptera, Lepidoptera, Zoophyta, Marine Algæ, and Permian fossils have all been carefully

catalogued and published, besides other matter enough to fill, with the catalogues, six volumes of Transactions; and that they have accomplished something towards promoting a taste for the study of natural history would appear pretty evident when we find that nearly four-fifths of the matter of the Part of the Transactions just issued have been contributed by authors who were school-boys when the Club was founded. Moreover there are now in preparation, by members of the Club, catalogues of the Birds, Crustacea, Annelida, Echinodermata, Foraminifera, Flowering-Plants and Ferns, and Freshwater Algæ of the two counties (Northumberland and Durham). With these completed, we may look in vain, we fear, for another district in England where so much shall have been done towards the investigation of its natural history.

Nevertheless much will then remain for the Tynesiders to accomplish. The Fish, Reptiles, and Amphibia, several orders of the Insecta, all the Arachnida and Cœlenterata, various groups of the Protozoa, besides all the Carboniferous Fossils, both vegetable and animal, will still be left to catalogue. Even with good lists of the faunas and floras of their district, they will scarcely have done more than have taken a census of the inhabitants of their domain. They will know what they have yet to investigate: this much they will have achieved; but the chief part of their work—the true study of the various creatures enumerated in their catalogues—will only be beginning. For the natural history of any animal or plant, let it be ever so lowly, means something more than a pair of Latinized names and a string of scientific words for a diagnosis. This, at least, is our conception of the matter; and we hope that it is that of the working naturalists of the Tyneside Club, and that they will not rest satisfied in cataloguing their natural treasures, but, like true men, will continue their labours until they have wrought out the *history* of them also.

Part II. of the sixth volume of the Tyneside Transactions includes the President's Address for the present year, a catalogue of Mammalia, and papers and reports on zoology, geology, botany, and meteorology, amounting altogether to about 200 pages. Five plates and several woodcuts illustrate the papers. The most important portion of the Part is the Catalogue of Mammalia by Messrs. Mennell and Perkins. Good local catalogues, even of Mammalia, are still desiderata in English zoology; and these authors deserve the thanks of zoologists generally for so valuable a contribution to their science. As the authors observe, there are few districts in England in which we might expect to find so large a mammalian fauna as in that embraced by these two northern counties; for in it are extensive regions of fells, or moors, almost as wild as nature left them, and very sparsely populated, where we may reasonably suppose that several of the wild animals which have long ago disappeared from other parts of England with the progress of cultivation, will still be found to have their retreats.

Of the 75 species of English Mammalia, Messrs. Mennell & Perkins claim 59 as occurring in Northumberland and Durham. They remark as follows:—"Of the 75 species of Mammalia usually in-

cluded in the English fauna, eight are exclusively met with in a domesticated state, viz. the Horse, Ass, Hog, Dog, domestic Cat, Sheep, Goat, and Fallow Deer; and into most lists, in this category only is the Ox entitled to admission. . . . Our catalogue contains 59 species, 50 of which are wild. Our northern latitude impoverishes our fauna in Bats, or we might show a still greater comparative richness. That the fauna of our district is naturally rich, and has been well worked out, the following figures will show:—

	Wild Species.	Total Species.
" British fauna	67	75
Shropshire	26	35
Staffordshire	29	37
North Kent (Greenwich Club). . . .	30	39
Cornwall.	39	48
Northumberland and Durham	50	59."

In their observations on the species, the authors give some interesting remarks on the Chillingham cattle, the Otter, and the Badger. They differ from Professor Owen in their views on the descent of the first of these animals, claiming for its ancestors the wild cattle that roamed the hills of Northumberland when "the beaver built its dams on our rivers, and the bear and wolf preyed upon the roe-deer in our forests." Prof. Owen's opinion is that the Chillingham cattle, with all our larger domesticated breeds, were introduced, in a tame state, by the Romans. "The Roman cattle, from whence he derives the Chillingham race, are, he says, descendants of the Indian Brahmin cattle (*Bos Indicus*, Linn.), which were procured by the Romans from the Greeks, by the Greeks from the Egyptians, and by these from India, probably through the intervention of the Syrians or Persians." "The Highland Kyloes and the Welsh Runts, he considers, are more probably the descendants of the cattle possessed by the Britons at the time of the Roman invasion, inhabiting as they still do the mountain fastnesses to which the Celtic population retired; and these were, he thinks, the descendants of a wild British race, probably identical with the *Bos longifrons*, whose remains occur in the New Pliocene strata, in the brick-earth deposits, drift-gravels, and bone-caves." Messrs. Mennell & Perkins discuss this question at some length; and we certainly think that they bring forward more and stronger reasons for differing from Professor Owen's views than for agreeing with them.

Respecting the Otter, the authors observe, "Our district at the present day may, we think, very properly be designated the headquarters of this fine animal. It is abundant in all the rivers and larger streams, and even the smaller burns can often testify to its predatory visits. Increasing population, combined with bitter enmity to this terrible foe of the finny tribe, has almost exterminated the Otter in many parts of the country where it was formerly abundant, and caused it to retire to wilder, more remote, and less frequented districts. In haunts like these, and especially in North Northumberland, the Otter exists in, comparatively speaking, un-

disturbed security ; and long may it continue to do so !” After these remarks, follow eight pages on otter-hunting, appended to which are four lines and a half of information on the natural history of the animal. We certainly think that, both here and in other parts of the catalogue, a great deal of matter has been introduced which would have been better kept out. Observations on otter-hunting would be suitable enough for a sporting-journal, such as ‘Bell’s Life’ or the ‘Field,’ but they scarcely seem appropriate in a scientific catalogue of Mammalia. Again, in noticing the Fox, our authors limit their natural-history observations to saying that it is “abundant in both counties.” Then we have a paragraph on the philology of the word “tod,” the local term for the fox. Afterwards follows a page of information on the packs of fox-hounds, and their owners and huntsmen of the two counties. We are told, for example, that “the Durham county pack contains fifty-one couples ; they hunt four days a week, viz. Monday, Tuesday, Thursday, and Saturday ; J. Henderson and J. Harvey, Esqs., are the masters, Mark Carr the huntsman, and Stephen Winkworth the whip. The kennels are at Sedgefield and Farewell Hall ;” also that “the Alnwick pack is new,—we believe, also a ‘scratch’ or ‘trencher-fed’ pack.” How all this comes under the head of *Canis vulpes* we are at a loss to tell. We should have thought that, if it had to be included at all, *Canis familiaris* would have been the most suitable heading ; with a little more discretion on the part of the authors and editors, it would have been kept out altogether.

Now that we are criticising—as criticism is usually understood—we may further point out that certain species appear to be included in the list on very slender grounds, and in some cases, indeed, on no grounds at all. Passing over the first on the list, *Homo sapiens*, whose presence there is amusing rather than objectionable, we come to the Wolf (*Canis lupus*), which does not seem to have existed in Northumberland and Durham much later than the third Henry. A little further on we meet with the Roe Deer, Red Deer, and Beaver, all of them animals long extinct. It may be, perhaps, that these species are rightly included in the list ; but that depends upon the principle on which the catalogue has been constructed. If the authors have comprehended all the mammals that have existed in the district during the historical era, these species ought, of course, to be included. This would be the principle the geologist would adopt ; for he must have an era or period to work in. But the zoologist or investigator of recent life deals with time more sparingly : his investigations, indeed, are almost limited to the present—to life in all its various aspects, as he can now observe it. Hence it would perhaps have been as well to have kept such species as those named apart from those which exist in the district in the present day—in other words, to have made their primary list one of species that compose the existing mammalian fauna of the district, with a supplementary list of such other species as are known to have formerly existed, but which are now extinct ; for what we most want to learn from a catalogue of this kind is not so much what the fauna of any part of England was 300, 500, or 1000 years ago, but what it is now, *anno Domini* 1864.

For the same reasons we would object to some of the Cetaceans which appear in the list. The High-finned Cachalot, in fact, has never been captured on the Northumberland and Durham coast at all, and is included merely because it is said to have been seen at sea off the Dogger Bank! Sailors, however, are not always safe authorities for the naturalist to follow; and though they may have seen the Cetacean in question, they are just as likely to have seen something else which they mistook for it.

But the most injudicious or ludicrous (we scarcely know which) insertion is that of the Alpine Hare (*Lepus variabilis*), of which the authors coolly state, "We are not aware that this species has been met with in our district, though we see no reason why it should not occur on the Cheviots and high fells which separate our counties from Cumberland and Westmoreland, the mountains which it inhabits." Now really this is too bad, and indicates such an utter want of carefulness on the part of the authors as to throw suspicion over the whole catalogue. For it is quite evident that, besides the species which they *know* to exist in Durham and Northumberland, they likewise include those which they *think* ought to exist—two very different things. Certainly, if this be the fashion after which the Catalogue of the Northumberland and Durham mammals has been constructed, no wonder that it is the largest local list that has yet appeared in England!

In a paper by Mr. G. S. Brady, on the Zoology of Hylton Dene, we have an account of a careful examination of the faunas of a series of pools of brackish water, of different degrees of saline strength, situated on some marsh-land near to the River Wear, about two miles and a half from its mouth. The pools which are the most saline are solely inhabited by marine species (the common Stickleback excepted), among which are Nudibranchiate Mollusca, Shrimps and other Crustacea, Foraminifera, and Annelides. In pools further removed from the influence of tidal action, and hence containing a smaller percentage of saline matter, some of the above forms are absent; but, as no freshwater species appear, the fauna remains marine. Further away still, is another pool, which the overflow of the highest tides rarely reaches, and which is therefore virtually freshwater. Here are Water-rats, Beetles, Freshwater Mollusca, Entomostraca belonging to *Cypris* and *Cyclops*, and other freshwater animals and plants; and the banks of the pool are fringed with grasses and brushwood. But amidst all these indications of freshwater conditions likewise appear two or three species of Prawns and Shrimps, which, as the author says, "it is strange to see gliding among the leaves of the Callitriche, and overshadowed by the blossoming wild-rose and whin." The author further observes that these marine Crustaceans do not seem to have deteriorated from their residence in fresh water, except in the case of the Prawn, which is rather small.

There are few subjects in natural history that promise more interesting and important results than that which Mr. Brady here takes up. For the zoology of an estuarine or brackish region, whe-

ther small or extensive in area, is the zoology of a sort of border territory, where marine and freshwater life meet and to some extent commingle. It is here that the *conservatism of species* is tested, or where new conditions offer them the best opportunities for showing the strength of their tendencies towards change and advancement—or, perhaps, change and retrogression. If the white bear of Darwin has ever to become a whale, it is under such circumstances that we should expect to see it acquiring those new habits that are to result in such a transformation of its structure, organization, and mode of life.

There are also other grounds on which investigations like the present are of great interest; for they throw light on the researches of the palæontologist, more especially on that still disputed question among geologists, the origin of the coal-measures, whether they were formed in fresh or salt water. We will quote the remarks of the author on this point.

“Estuarine swamps such as this which we have just noticed seem to be the nearest analogues we now possess of those extensive lagoons which, during the Carboniferous period, supported the rank vegetable growths now fossilized in our Coal-measures. To the palæontologist it must be a matter of considerable interest to note the association of species in such localities; and I think enough has been said to show that considerable caution should be used in pronouncing upon the freshwater or saline nature of any deposits merely from the nature of the animal forms which they enclose. Judging from analogy, however (if our own island may be taken as a type), we should suppose that any great luxuriance of vegetable growth must be indicative of freshwater conditions. We uniformly find in the saline portions of these marshes a peculiarly dwarfed and stunted vegetation, while as we recede from the salt-water influence, it often assumes a rank luxuriance, putting on a character quite as much in accordance with the vegetation of the coal-period as can be expected in these degenerate days.”

Mr. J. Hancock furnishes a paper on the recent occurrence of Pallas's Sand-grouse in Northumberland and Durham, in which he informs us that about twenty-three individuals of that species were shot in those counties in the year 1863. It is just possible that this Siberian visitor may meet with a suitable habitat in some of the northern parts of our island, and so remain a permanent resident with us, though we doubt much whether this can be, in our present state of high civilization, and with that rampant propensity for exterminating which the modern Englishman exhibits to everything that he cannot domesticate into his burden-bearing or flesh-feeding retainers.

We cannot refer at length to the other papers that appear in the Part, though several of them contain valuable information both to the naturalist and the general reader. Suffice it to say that among them are papers on Coal-miners, by Dr. Wilson; on Ostracoda, by G. S. Brady; on Pycnogonoidea, by G. Hodge; on Coal-measure Fishes, by Messrs. Kirkby and Atthey; and on the Rain-fall, by

G. C. Atkinson ; some of which memoirs have already appeared in our pages. There is, moreover, a series of papers composing the Dredging-Report of 1863, containing much important matter. We think, however, that it would be well for the editor of the report to adopt for the future greater uniformity in tabulating the results of the dredgings. Each list, for example, ought to be drawn up after the same plan, with the same system of nomenclature throughout, so far as concerns locality and depth. As it is, very little information at all is given respecting the depth of the different dredgings, or the nature of the ground, both of which are points of great importance in the distribution of species. Regarding the localities where the dredging-operations took place, each author seems to have adopted a nomenclature of his own : thus one set of dredgings is referred to, by the different authors of the report, as having taken place "off Berwick," "off Holy Island," and in "Berwick Bay ;" and we suspect that "the Durham coast" and "off Seaham" both refer to the same locality though they appear to refer to different places. All this is very confusing, and may lead to the report being misunderstood. When the next Dredging-Report appears, we should be glad to see the different dredging-papers drawn up after the method of Edward Forbes and M'Andrew, with the locality, depth, nature of ground, distance from shore, quantity of individuals of each species, and whether dead or living, and condition, all clearly stated for every dredging. At the same time we trust that some explanation will be given of the signs used in the lists ; for at present who except the authors can have the slightest idea of what is expressed by the letters c., r., r.c., v., &c. ?

Notwithstanding these and the preceding strictures which we have deemed it our duty to make in noticing this Part of the Tyneside Transactions, we must say, in conclusion, as we said or implied at the beginning, that there is far more in it to admire than to disapprove.

The Physical Geology and Geography of Great Britain : Six Lectures to Working Men, delivered in the Royal School of Mines in 1863. By Prof. A. C. RAMSAY, F.R.S. &c. Second edition, pp. 199. London : E. Stanford. 1864.

The success of this little book has confirmed an impression we have long been under, that one of the most paying works a competent geologist could undertake is a new edition of Conybeare and Phillips's 'Geology of England and Wales.' Students of geology would accept it as a guide, and professed geologists would use it as a text-book, while professors and lecturers would recommend it as both.

These Lectures were not published with any such ambitious design : they were delivered to an audience of working men, at a nominal fee of sixpence for the course, in the Museum of Practical Geology ; and the first edition of them was printed last year from the notes of a short-hand writer. Prof. Ramsay remarks, in his